

The Afghanistan Agrometeorological AAMonthly Bulletin



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March 2009

Heavy Rainfall resulted localized flooding in Faryab , Kunduz Uruzgan and Daikundi provinces. Colder temperature during the Month of March 2009 resulted consistent snow Coverage areas.

Hirat

Nangerhar

Agromet Network



Funded by



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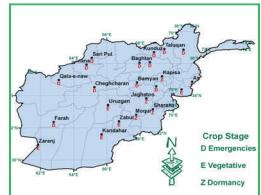
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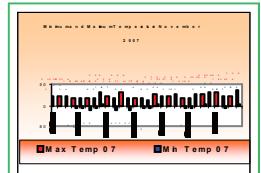
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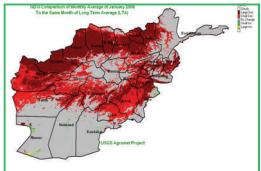
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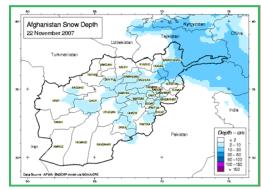
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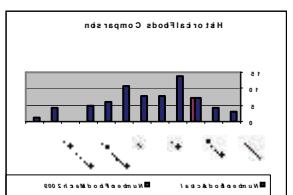
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Summary

March 2009 experienced a wide low pressure system resulting widespread precipitation all over the country.

As a dominant precipitation type there was an increase of rainfall in low land and the high land experienced better snowfall compared to the same month of last year. There is an increase of rainfall in March 2009 to the same month of last year but lower than the same month of long term average.

Heavy rainfall resulted localized flooding in Faryab, Kunduz, Daikundi and Uruzgan Provinces. In Nangarhar rust is dominant diseases caused from continuous rainfall in wheat and onion crops.

Comparison of snow extent for the period (March 22-29 2009) shows an increase in Hindu Kush mountains and central regions.

Low temperature (cooler-than-normal) and strong low pressure in central highlands should mitigate early snow melt in the snow watershed.

Comparison of average NDVI value shows a large increase in Northwestern, Northeastern compared to same month of last year and long-term average.

Report from the field shows that wheat is in emergence—grain filling stages over the country.

The main adverse factors are excessive weeds and rust in wheat fields.

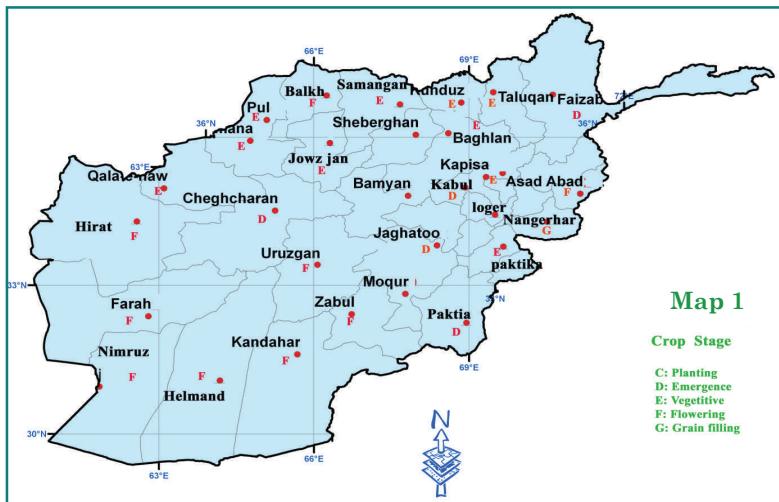
Zone	Province	District	Station	Wheat Crop Stage	Crop Condition	Adverse Factor
Central	Kabul	Shakardara	Karizmir	Emergence	Not visible	Not seen
		Paghman	Paghman	Emergence	Not visible	Not seen
		Sarubi	Sarubi	Flowering	Normal	Not seen
	Panjsher	Dara	Dara	Emergence	Not visible	Not seen
		Dashtak	Dashtak	Emergence	Not visible	Not seen
	Parwan	Ghorband	Syagerd	Emergence	Not visible	Not seen
		Charikar	Charikar	Vegetative	Normal	Not seen
	Kapisa	Mahmoodraqi	Mahmoodraqi	Vegetative	Normal	15% Excessive weeds
		Kohistan	Kohistan	Vegetative	Normal	15% Excessive weeds
	Wardak	Chak	Chak	Emergence	Not visible	Not seen
		Jaghatoo	Jaghatoo	Emergence	Not visible	Not seen
East Central	Bamyan	Bamyan	Bamyan	Emergence	Not visible	Not seen
		Yakawlang	Yakawlang	Emergence	Not visible	Not seen
		Panjab	Panjab	Emergence	Not visible	Not seen
Eastern	Nangarhar	Agam	Agam	Flowering	Normal	Rust and excessive weeds in wheat area
		Batikot	Ghazibabad	Grain filling	Normal	Not seen
		Jalalabad	Sheshembagh	Grain filling	Normal	Not seen
		Jalalabad	Farm Jadeed	Grain filling	Normal	Not seen
	Konar	Asmar	Asmar	Flowering	Normal	Not seen
		Asadabad	Asadabad	Flowering	Normal	Not seen
	Laghman	Mihtarlam	Mihtarlam	Flowering	Normal	1700 jreb wheat areas is affected by wheat rust

Crop Stage, Crop Condition and Adverse Factor

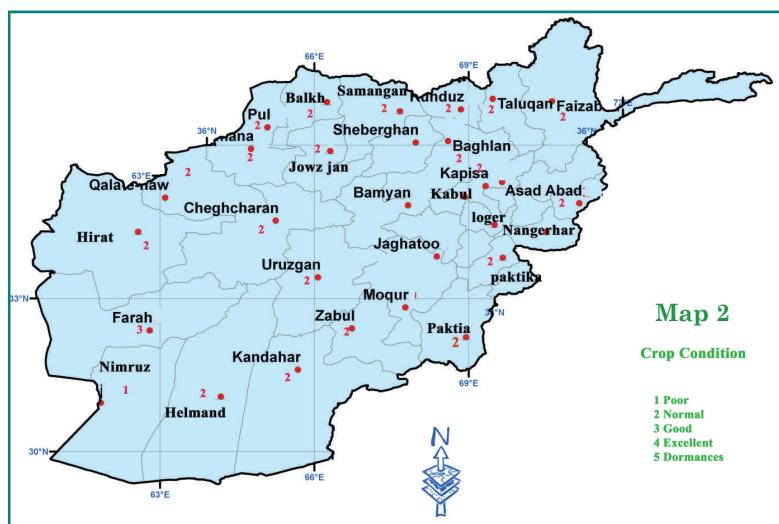
Zone	Province	District	Station	Wheat Crop Stage	Crop Condition	Adverse Factor
Northeast	Takhar	Bangi	Bangi	Vegetative	Normal	80% of wheat is better than last year and 20% wheat is affected by cut worm and locusts.
		Taluqan	Taluqan	Vegetative	Normal	80% of wheat is better than last year and 20% wheat is affected by cut worm and locusts.
	Kunduz	Imam Sahib	Imam Sahib	Vegetative	Normal	Excessive weeds
		Aqtipa	Aqtipa	Vegetative	Normal	Excessive weeds
		Chardara	Chardara	Vegetative	Normal	Excessive weeds
		Kunduz	Kunduz	Vegetative	Normal	Excessive weeds
	Baghlan	Baghlan Jadir	Pozaihan	Vegetative	Normal	Not seen
	Badakhshan	Faizabad	Faizabad	Emergence	Not visible	Not seen
	Khost	Khost	Khost	Flowering	Poor	Excessive weeds
		Shimal	Shimal	Flowering	Poor	Excessive weeds
		Ali Sher	Ali Sher	Flowering	Poor	Excessive weeds
South Eastern	Paktai	Zormat	Rohani Baba	Vegetative	Normal	Not seen
		Gardiz	Tera	Vegetative	Normal	Not seen
	Paktika	Urgon	Urgon	Vegetative	Normal	Not seen
		Sharana	Sharana	Emergence	Not visible	Heavy hail damaged fruit trees
		Khairkot	Khairkot	Emergence	Not visible	Not seen
	Ghazni	Muqur	Muqur	Emergence	Not visible	Not seen
		Bande Sardi	Bande Sardi	Emergence	Not visible	Not seen
Southern	Nimroz	Zaranj	Zaranj	Flowering	Poor	Due to less amount of rainfall in Kang and Chaghansoor districts, cultivation is not done except and some areas having good precipitation.
	Kandahar	Kandahar	Kandahar	Flowering	Normal	Not seen
	Zabul	Qalat	Qalat	Vegetative	Normal	Not seen
	Urozgan	Tarinkot	Tarinkot	Vegetative	Normal	Not seen
	Hilmand	Nad Ali	Nad Ali	Flowering	Normal	Not seen
		Greshk	Greshk	Flowering	Normal	Not seen
		Nawa	Nawa	Flowering	Normal	Not seen
		Lashkargah	Bolan	Flowering	Normal	Not seen
North	Balkh	Dihdadi	Dihdadi	Flowering	Normal	Not seen
		Nahrishahi	Nahrishahi	Flowering	Normal	Not seen
	Jawzjan	Sheberghan	Sheberghan	Vegetative	Normal	Not seen
		Darzab	Darzab	Vegetative	Normal	Not seen
	Saripul	Saripul	Saripul	Vegetative	Normal	Not seen
		Sozmaqala	Sozmaqala	Vegetative	Normal	Not seen
	Faryab	Maimana	Maimana	Vegetative	Normal	Not seen
	Samangan	Aibak	Aibak	Vegetative	Normal	Not seen
		Dara Yosuf	Dara Yosuf	Vegetative	Normal	Not seen
Western	Badghis	Qalainow	Qalainow	Vegetative	Normal	Not seen
		Muqur	Muqur	Vegetative	Normal	Not seen
	Ghor	Chaghcharan	Chaghcharan	Emergence	Not visible	Not seen
	Hirat	Shindand	Shindand	Flowering	Normal	Not seen
		Hirat	Farm Urdokhan	Flowering	Normal	Not seen
	Farah	Farah	Farah	Flowering	Good (better than normal)	Not seen

Crop Stage, Crop Condition and Adverse Factor, Maps

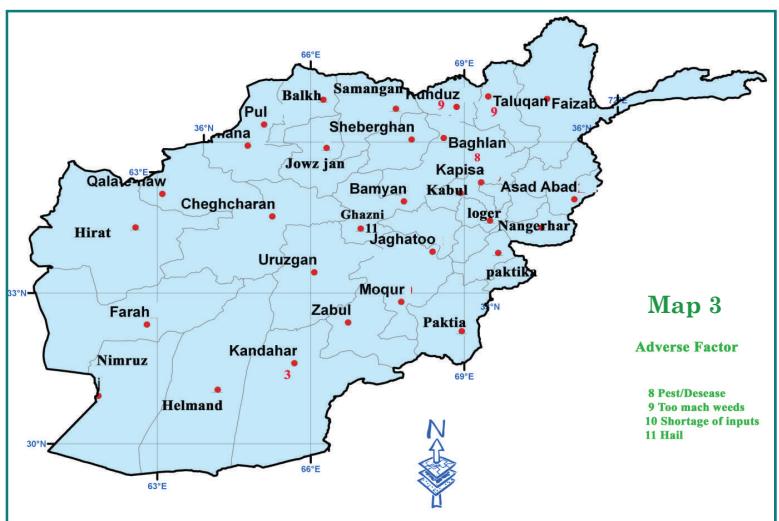
Wheat Crop Stage - March 2009



Wheat Crop Condition - March 2009



Wheat - Adverse Factor March 2009



Precipitation

At the beginning of March, a strong winter storm brought heavy rain in to the country and frequent low pressures system progressed during the month of March in resulted the country experienced significant precipitations, and occurrence of heavy rain during the month of March reduced precipitation deficits.

Comparison of rainfall data for the month of March 2009 with the same month in 2008 (chart 1) shows significant increase of rainfall during the month of March 2009 compared to the same month of last year.

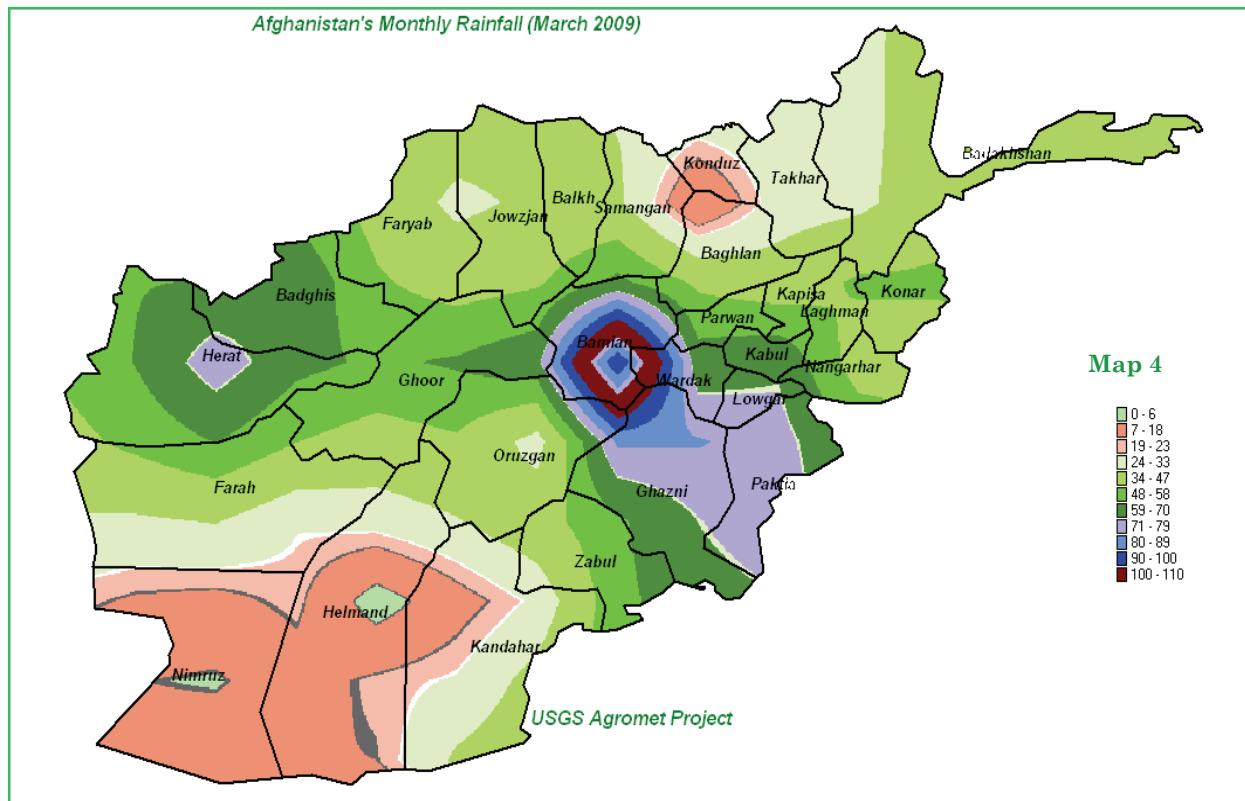
The month of March was wet period which the whole country received significant precipitation. Adequate rainfall during the month of March 2009 will reduce stress on water resources and will be efficient

for agricultural activities for the upcoming Agricultural season. The percentage +/- of rainfall shown in the following page (table 1).

Precipitation amount range (+/-) was variable in the stations for the month of March 2009 over the same month of long term average.

Comparison of rain fall data for the month of March 2009 with the same month of long term average (chart2) shows a decrease of rainfall during the month of March 2009 compared to the same month of long term average, and rainfall for the month of March 2009 was below long term average.

The percentage +/- of rainfall shown in next page (table2).



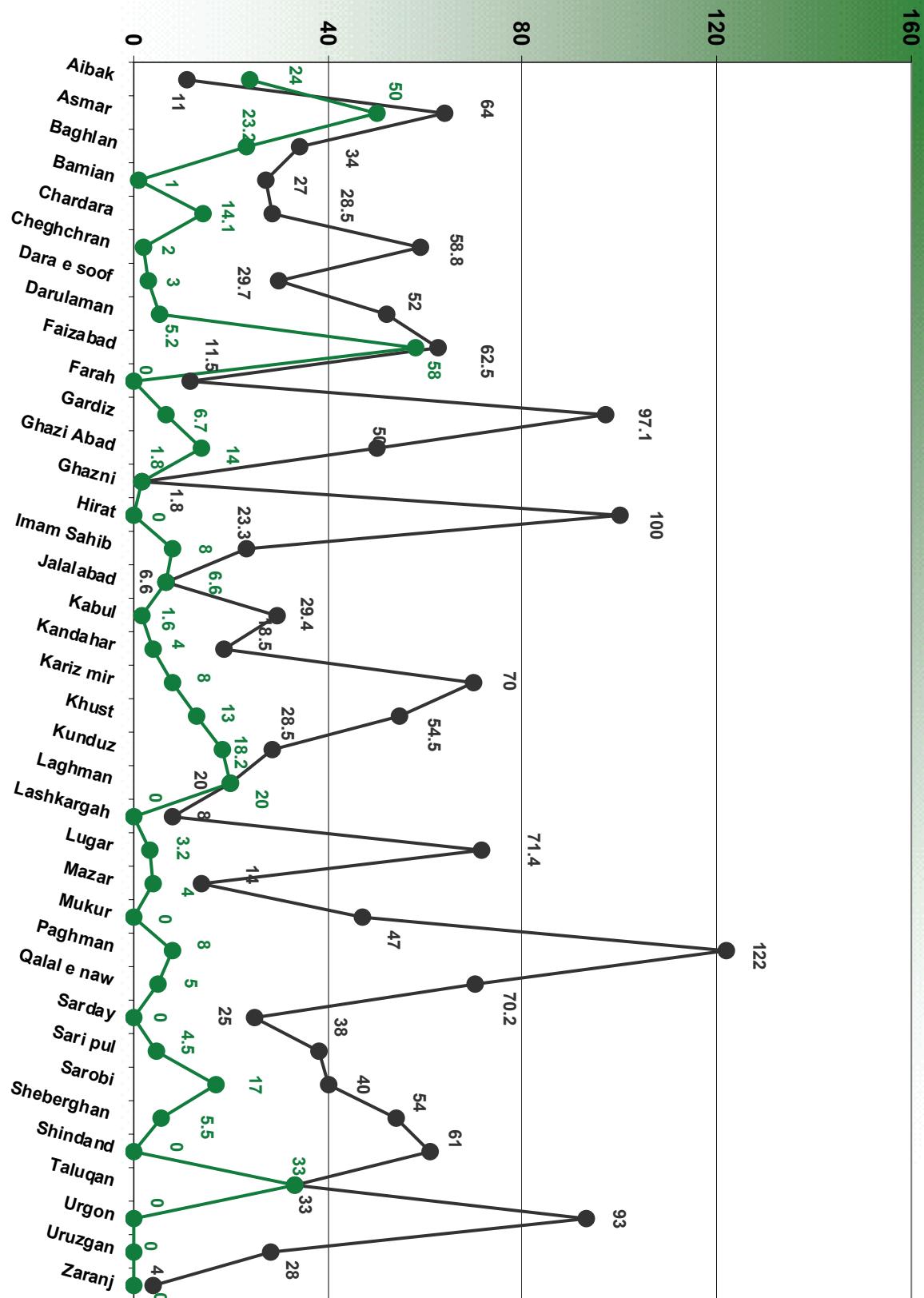
Distribution of rainfall for the month of March 2009 was variable in deferent regions of the country. As map (4) shows the Central Highlands received significant rainfall during the month of March 2009, and the Western region

also received much rainfall. The Northern region, some parts of the Northeastern region, Southern and Southwestern regions experienced low amount of rainfall during the month of March 2009.

Chart 1

Rainfall Graphs for the Month of March 2009

Comparision of Actual Rainfall (March 2009) and last year Monthly Rainfall (March 2008)

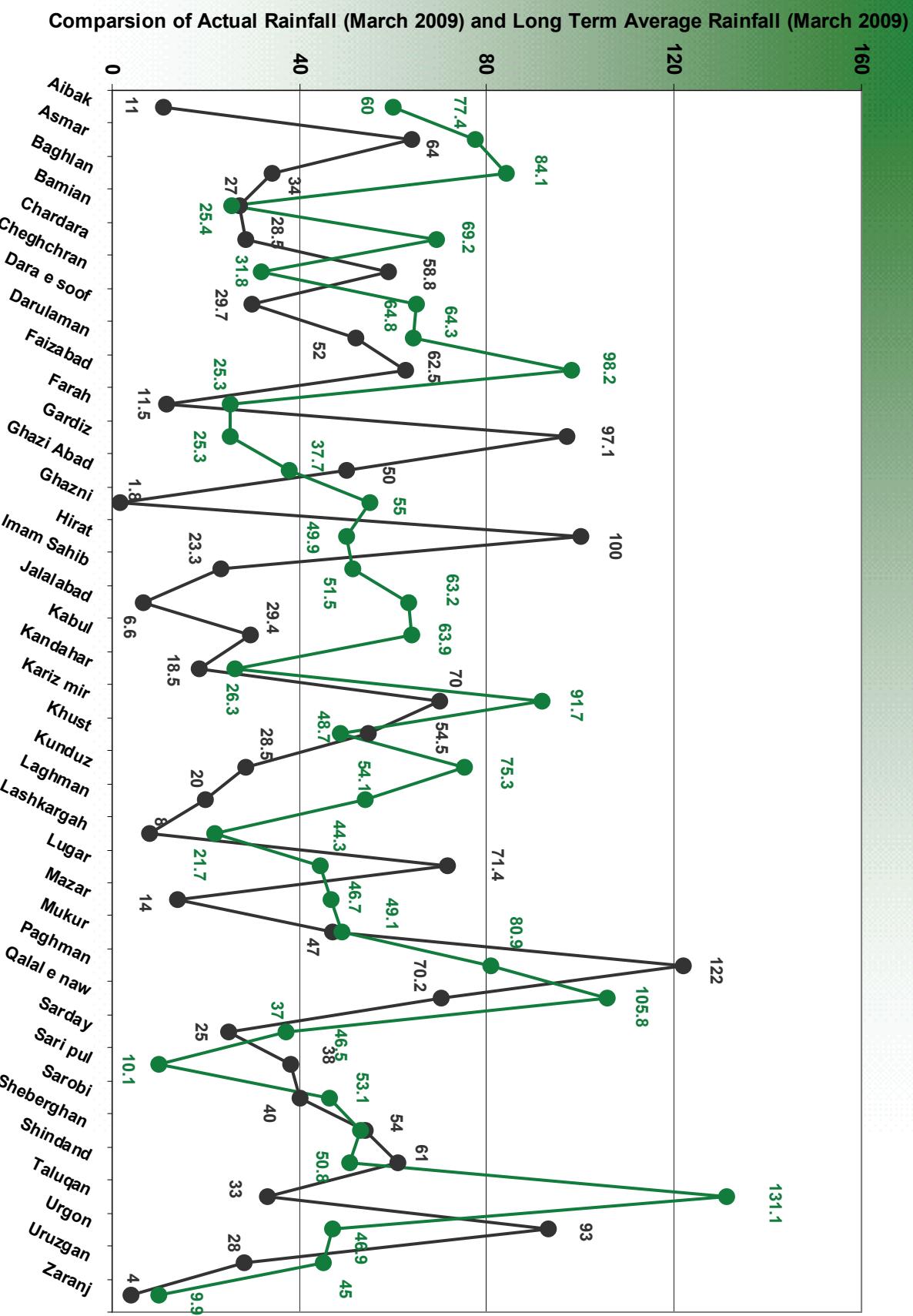


—●— Actual Rainfall March 2009 —●— Last year Rainfall March 2008

Rainfall in mm

Chart 2

Rainfall Graphs for the Month of March 2009



Rainfall for the Month of March 2009

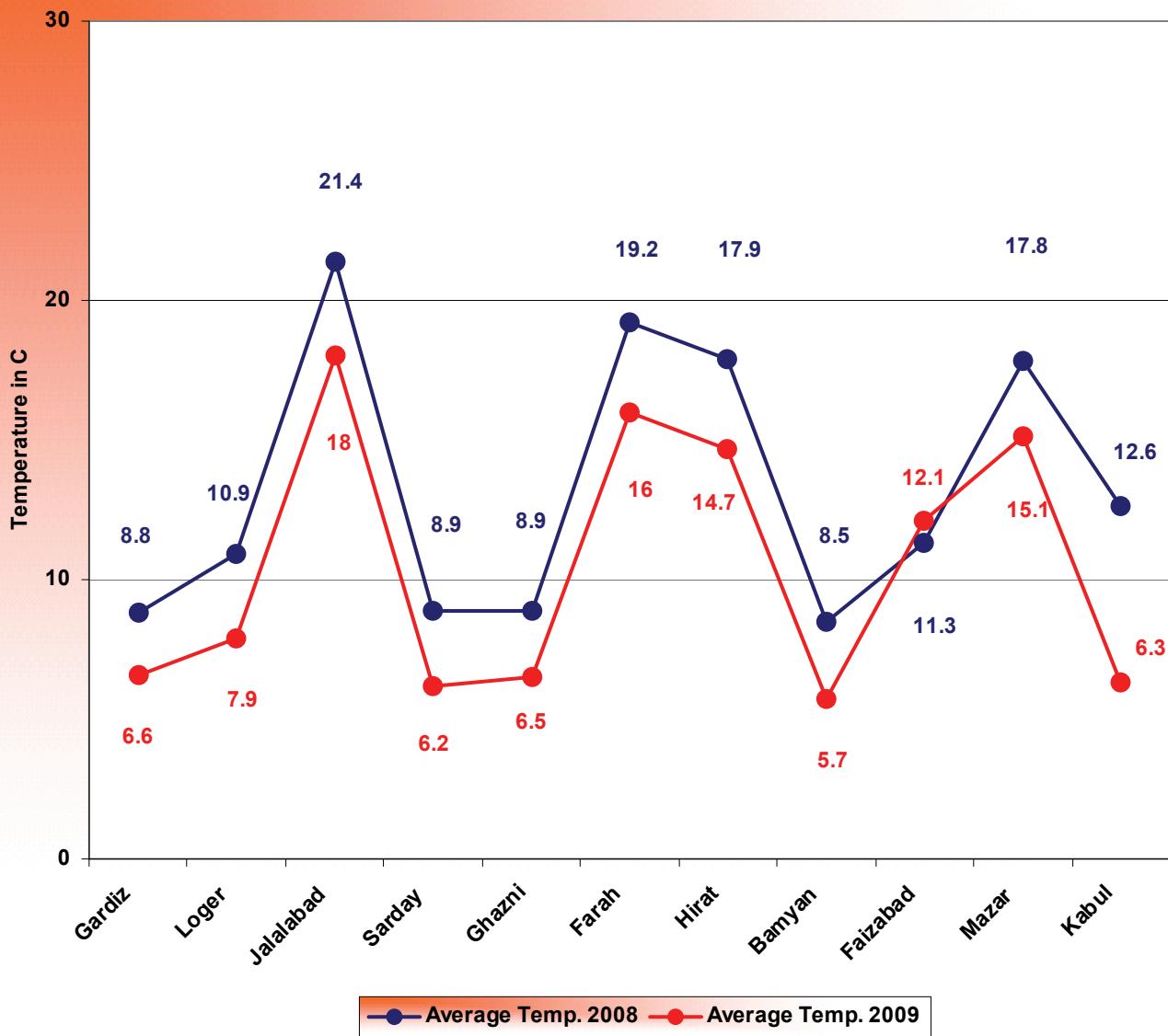
Table 2

Station	Actual Rainfall March 2009	Last year Rainfall March 2008	Long Term Average
Aibak	11	24	60
Asmar	64	50	77.4
Baghlan	34	23.2	84.1
Bamian	27	1	25.4
Chardara	28.5	14.1	69.2
Cheghchran	58.8	2	31.8
Dara e soof	29.7	3	64.8
Darulaman	52	5.2	64.3
Faizabad	62.5	58	98.2
Farah	11.5	0	25.3
Gardiz	97.1	6.7	25.3
Ghazi Abad	50	14	37.7
Ghazni	1.8	1.8	55
Hirat	100	0	49.9
Imam Sahib	23.3	8	51.5
Jalalabad	6.6	6.6	63.2
Kabul	29.4	1.6	63.9
Kandahar	18.5	4	26.3
Kariz mir	70	8	91.7
Khust	54.5	13	48.7
Kunduz	28.5	18.2	75.3
Laghman	20	20	54.1
Lashkargah	8	0	21.7
Lugar	71.4	3.2	44.3
Mazar	14	4	46.7
Mukur	47	0	49.1
Paghman	122	8	80.9
Qalal e naw	70.2	5	105.8
Sarday	25	0	37
Sari pul	38	4.5	10.1
Sarobi	40	17	46.5
Sheberghan	54	5.5	53.1
Shindand	61	0	50.8
Taluqan	33	33	131.1
Urgon	93	0	46.9
Uruzgan	28	0	45
Zaranj	4	0	9.9

Average Temperature for the Month of March 2009

Average Temperature (March 2009) Compared with the Same Month of 2008

Chart 3



The negative departure of temperature during the month of March 2009 from the same month of last year prevented rapid snow melting

Comparison of monthly average of temperature for the month of March 2009 with the same month of last year (chart 3) shows small decrease of temperature during the month of March 2009 compared to the same month in 2008 across the country.

Colder temperature during the month of March 2009

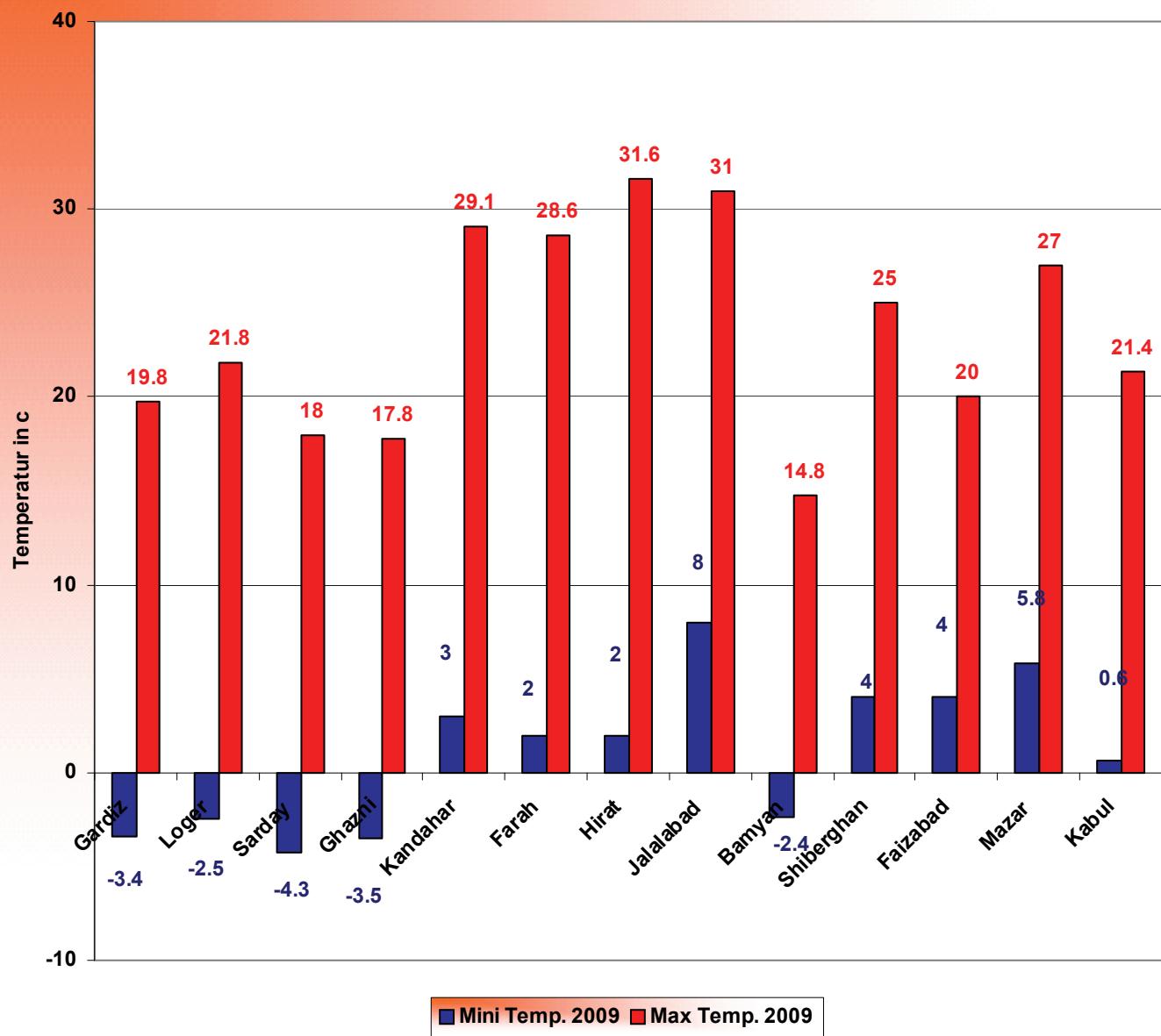
resulted consistent snow extent and depth in snow coverage areas.

The negative departure of temperature during the month of March 2009 from the same month of last year prevented rapid snow melting. Temperature departure during the month of March was 2 – 6 ° C.

Temperature for the Month of March 2009

Chart 4

Mininum and Maximum Temperature of March 2009

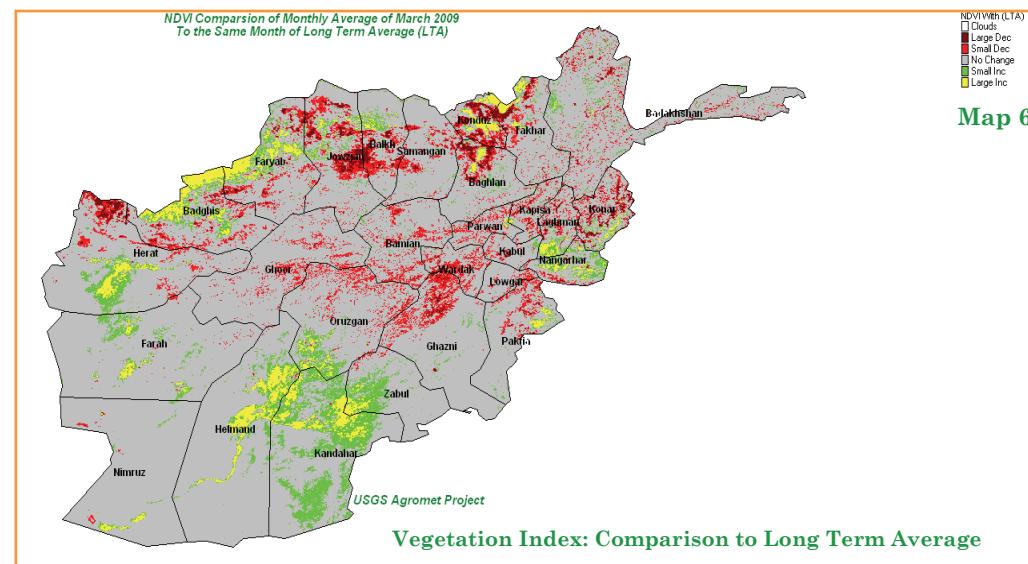
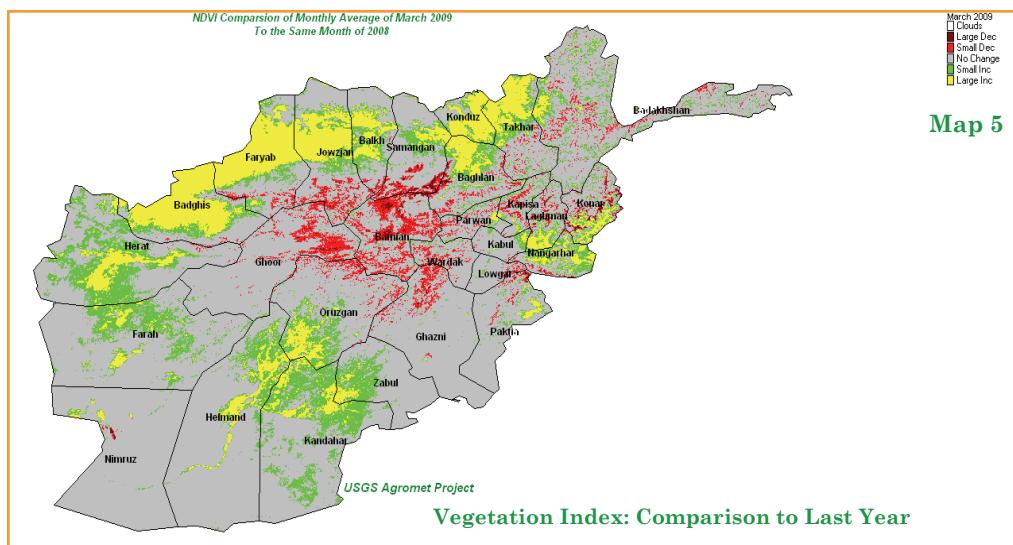


Hirat with 31.6°C was the warmest spot of the country during the month of Mach and Sardy with -4.3°C experienced lowest temperature.

Chart (4) shows maximum and minimum temperature for the month of March 2009. As chart (4) shows Hirat with 31.6°C was the

warmest spot of the country during the month of March and Sardy with -4.3°C experienced lowest temperature.

Comparison of NDVI March 2009



NDVI: March 2009

Comparison of monthly average of NDVI for the month of March 2009 with the same month in 2008 map (5) shows large increase of NDVI in the Northwestern region, Northern flat area and some parts in the Northeastern region, and small increase occurred in NDVI value in the Western region and some parts of the Southeastern regions during the month of March 2009 over the same month of last year. Small decrease occurred in NDVI value in the Central Highlands and neighboring areas during the month of March 2009 compared to the same month in 2008.

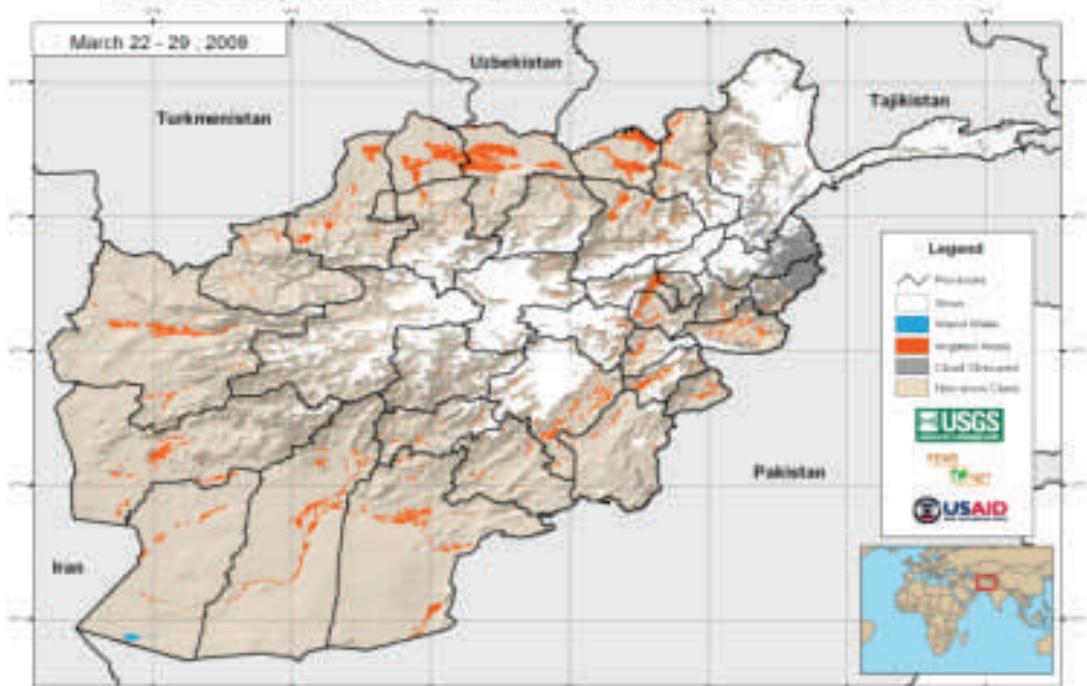
There is no change in NDVI value in the Southwestern and Southeastern regions during the month of March 2009 compared to the same month of last year.

Comparison of monthly average of NDVI for the month of March 2009 with the same month of long term average (map 6) shows large increase of NDVI in limited area in the Northwestern and small increase in the southern regions during the month of March 2009 over the same month of long term average.

Small decrease occurred in NDVI value in the most parts in the Central Highlands including neighboring areas, Capital region, and as separated in the Northeastern region during the month of March 2009 compared to the same month of long term average. There is no change of NDVI for the Southwestern and Southeastern regions during March 09 over the same month of long term average.

Comparison of Snow Extent

MODIS 8-day Snow Cover Extent - Current Period 2009 vs 2008



Map 7



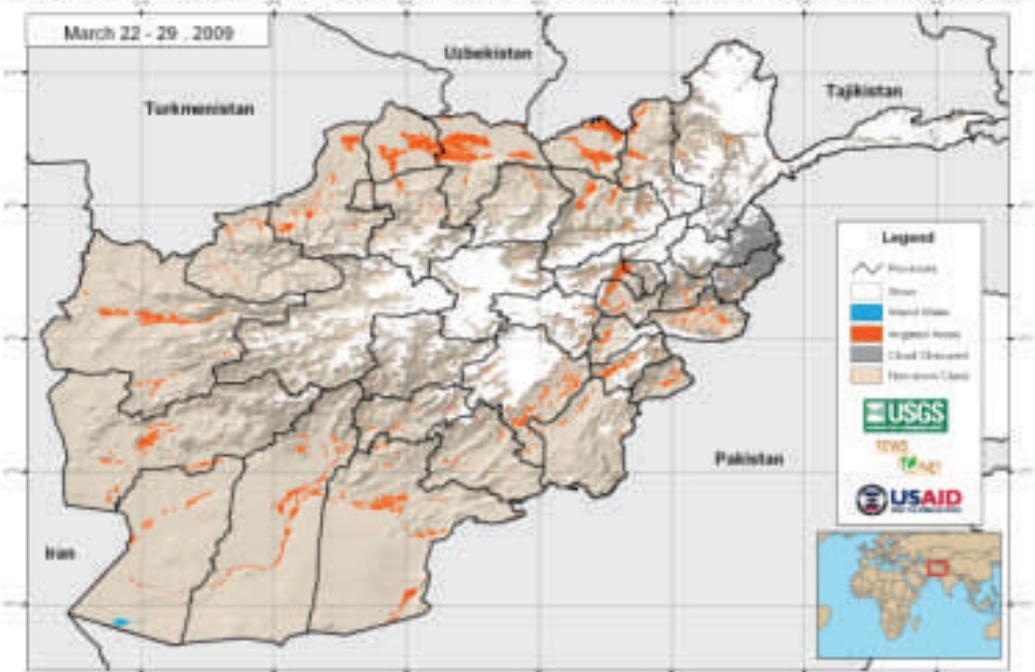
Map 8

During the month of March colder temperature prevented rapid snow melting and strong winter storms brought widespread precipitation, frequent of winter storms during the month of March increased snow extent and depth throughout the Central Highlands and Northeastern region. Comparison of

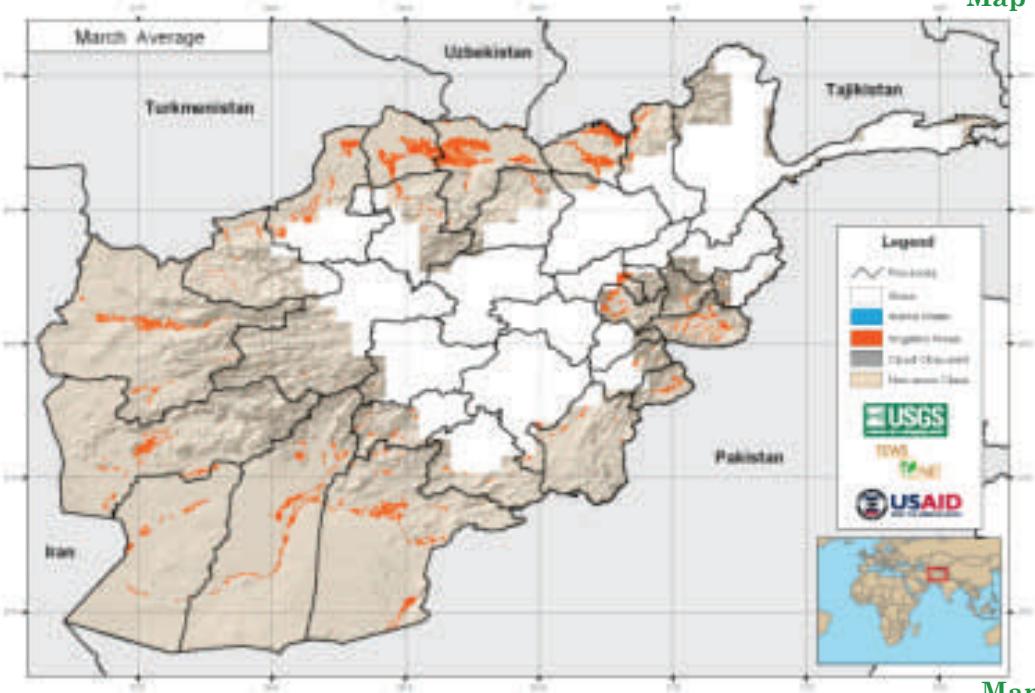
snow extent for the period (March 22–29) 2009 with the same period of last year (map7) shows an increase of snow extent particularly in the Northwestern region, Capital regions, and Hindukosh mountainous areas during the above mentioned period of March 2009 compared to the same period in 2008.

Comparison of Snow Extent

MODIS 8-day Snow Cover Extent - Current vs. Historical Average



Map 9



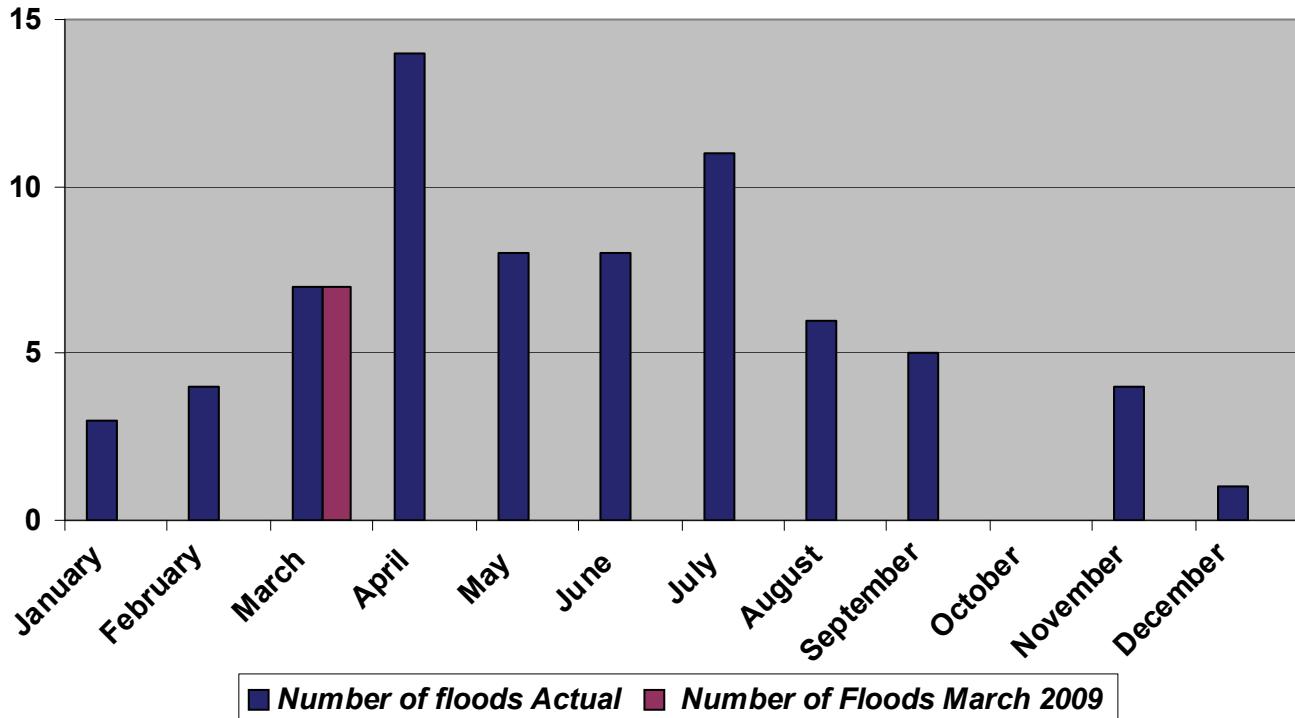
Map 10

Comparison of snow extent for the month of March 2009 with the same month of long term average (map 10) show a decrease of snow extent in snow coverage areas particularly in the Northwestern

region, Central Highlands, Capital region, Southeastern region and some parts of the Northeast region during the month of March 2009 over the same month of long term average.

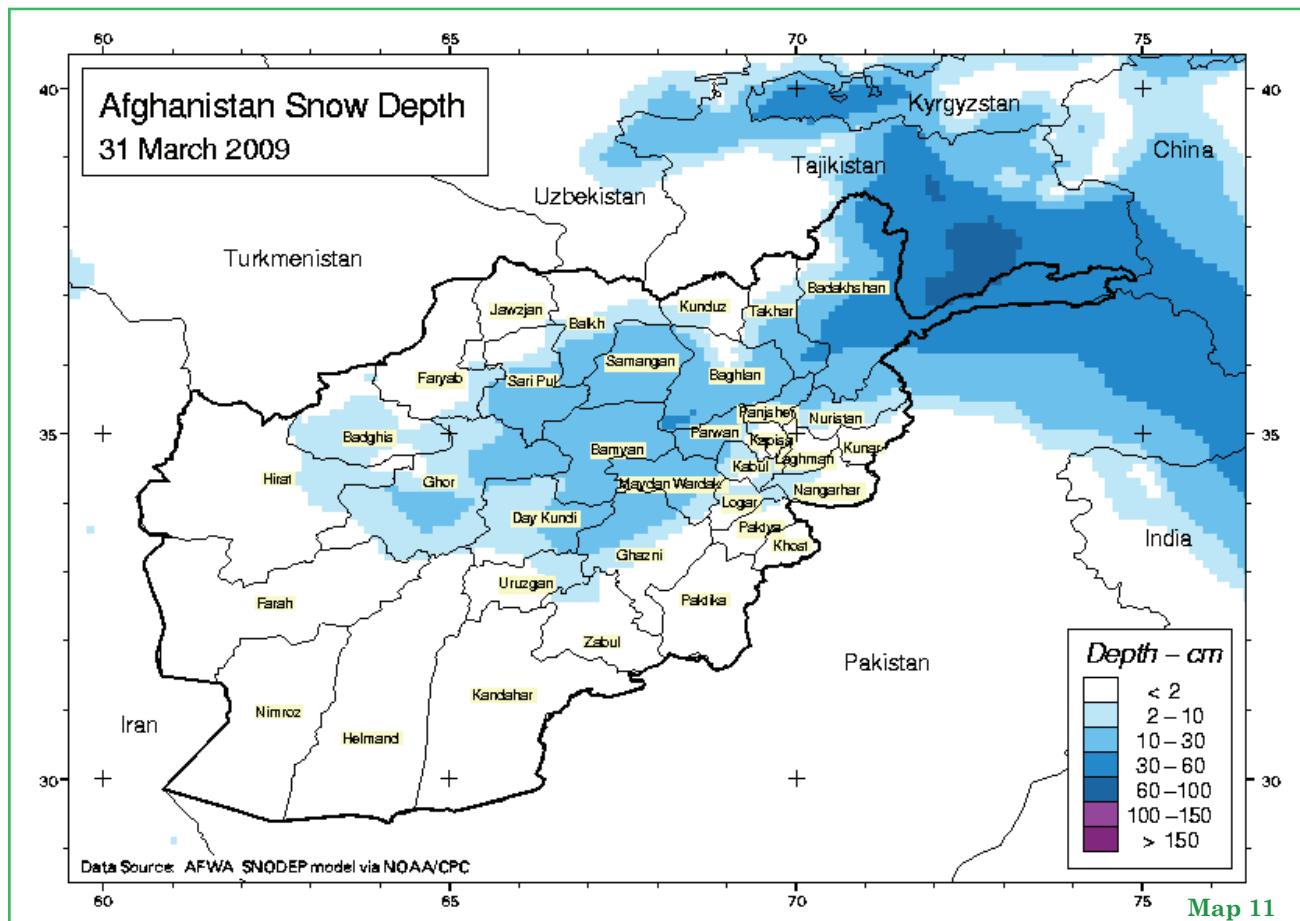
Historical Flood comparison

Historical Floods Comparsion



Historical Months	Number of floods Actual	Number of Floods March 2009	Effects
January	3	0	
February	4	0	In Arghandab and Arghistan districts of Kandahar province 70% Agricultural areas are damaged.
March	7	7	
April	14	0	In Kunduz province 1 house is damaged and 2 animals are killed .
May	8	0	In Dikondy province 150 houses Damaged.
June	8	0	In Faryab province 17020 jerebs wheat fields and 48 jreb vineyards, 11 houses ,49 Deep wells are damaged, 12 animals are killed as well.
July	11	0	
August	6	0	In Kunduz province 100 jerk of wheat fields are damaged.
September	5	0	
October	?	0	In Almar district of Faryab province 714 jerebs wheat fields, tow shops and tow houses damaged.
November	4	0	
December	1	0	

Afghanistan Snow Depth for the of March 2009



Map (11) shows snow depth for the end of March 2009 in snow coverage area. As map (11) shows, the snow depth 30 – 60 cm recorded for the

Northeastern extreme portions, and 10- 30 cm for the Central Highlands and neighboring areas.

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